

of hemorrhage, had happened two weeks before death, and which, from favourable circumstances, had closed up, and thus for some days prolonged the patient's life. And, further, that the fatal attack was explicable by the presence of a great quantity of fluid blood to appearances recently effused.*—*Ibid.*, Aug. 1846.

A third case is recorded by Dr. Pfeufer in *Allgemeine's Report*, March, 1844. (See the number of this Journal for Jan. 1846, p. 213.)

The fourth case will be found in the number of this Journal for January, 1846, p. 64, recorded by Dr. Ruschenberger.

17. *Observations on some cases of Sudden or very Speedy Deaths, probably dependent on Diseases of the Heart and large Blood-vessels.* By H. C. LOMBARD, M. D., of Geneva.—It is not a very long time since all cases of sudden death were regarded as *apoplexies*, and consequently referred to affection of the brain. At the present time, in consequence of more accurate researches, it is generally agreed, that the greater portion of them depend upon *diseases of the heart or large blood-vessels*. In fact, if we except some cases of hemorrhage into the pons varolii or medulla oblongata, it is very rare for sudden death to occur from cerebral apoplexy, the patient almost always surviving the rupture of the cerebral substance, and the compression of the brain by the effused fluid, several hours. We must then receive with distrust several of the cases related under the title of "thundering apoplexy," when the death has been very sudden, and the lesion not verified by an autopsy.

It is quite otherwise with regard to death produced by a morbid condition of the heart and the large vessels. An old practitioner, Dr. Butini, of Geneva, once said to me, in reference to a sudden death which took place in a case of heart-disease—"You must not be surprised at this sudden termination. More than a third part of such patients die in this manner, some in turning round in bed, and others, and this is the most frequent case, while getting up to go to stool; so that you must consider sudden death as an ordinary consequence of disease of the heart and hydrothorax." I have had frequent occasion to verify the exactitude of these words, which were addressed to me at the commencement of my medical career: and now, after seventeen years' practice, I wish to add the result of my experience to that of the distinguished physician I have named. In fact, both in my private and hospital practice, I have had frequent occasion to meet with sudden terminations of heart-disease. I have seen patients die suddenly at every stage of these affections; sometimes when the organic changes were so little advanced as not to prevent them following their ordinary occupations; at others, when the extent of the changes, and the complication of dropsy, had long confined them to bed, or at all events to the house: and, if it were desired to establish the proportion between the frequency of sudden deaths among those who seemed only to be slightly attacked and those who were so seriously, it would be in favour of the former I should declare—in other words—the *less advanced the organic disease the more frequent are the sudden deaths*.

Theory explains the sudden death of persons suffering from heart disease. In fact, when the central organ of the circulation is in its normal condition, the temporary cessation of its functions is rarely of serious consequence; while, when its cavities or orifices are in a diseased condition, such suspension, for however short a period, may be attended with the worst consequences. A comparison will cause this to be better understood. Two wagons heavily laden seem to roll along with like facility as long as their movement meets with no obstacle. But suppose the horses stop awhile, you perceive a great difference. The axle of one of the wagons presents an irregular surface from lack of oil. That of the other turns easily without noise or friction. The efforts of the horses are now tasked to

* The occurrence, within so short a period, of two such rare aneurisms as the present, and the one exhibited at the meeting in July by Dr. Francis, contrasting so remarkably in their symptoms both before and at the period of death,—in the absence of suffering during life, and the comparatively slow death in the one case, and the long continuance of the pain, and the instant death in the other,—excited a lively attention. The reason for the presence of so much pain in the one case, and its total absence in the other, would appear to form an interesting subject for further investigation.

put the wheels in motion, and while the wagon having the easy axle is drawn with the greatest facility, the other obstinately resists the most vigorous efforts of the horses. The two surfaces, which should slide easily over each other, are motionless, and the horses uselessly exhaust themselves. However trivial this comparison may seem, it may give some idea of what takes place in a diseased heart, which has yet up to a certain time performed its functions without much difficulty. A syncope then, however, happens to occur, and all the efforts of the cardiac nerves upon the muscular substance, either enfeebled or impeded by obstacles at the orifices, are powerless, and the syncope, which in a healthy heart would have promptly disappeared, becomes the cause of death in a diseased one.

On examining the facts we find these cases may be divided into two quite distinct classes; that in which there is simple syncope and instant death, and that in which there is a considerable impediment in the circulation, and not leading to instant death, but producing such a disorder in the vital functions as leads to their cessation in the course of a few minutes. To fatal syncope are to be referred those cases of sudden death occurring when persons affected with disease of the heart are in the act of turning round in bed, or rising to go to stool. Besides *death by syncope*, however, diseases of the heart and large blood-vessels also frequently induce another description of death which I shall term *death from suffocating spasm*, in order to indicate its predominant characteristic. This, as that from syncope, may occur in persons apparently in the midst of excellent health, but who are really subjects of organic lesions.

Three cases are detailed in exemplification of the characters of this species of death. It is not so sudden as that from syncope, the patient dying in ten or twelve minutes. The attack occurs in the midst of apparent health. The respiration is excessively laborious and noisy, the patient the while tossing his arms in convulsive struggle, and expressing by his countenance or some word, for consciousness continues, the extreme of anguish and terror. A white foam flows from the mouth for some hours after death. "What is the mechanism of death in these cases? Is it a paralysis of the cardiac or inspiratory nerves? Is it a spasm of the cardiac or thoracic muscles? Paralysis, it seems to us, if complete should induce instant death by a fatal syncope; while, if it came on gradually, it would cause a lingering asphyxia which would only induce death at the end of some hours, or at all events in a much longer period than a few minutes; and the pallor of the countenance of these patients contradicts the supposition of the existence of any such asphyxia. I am disposed to place more weight on the explanation by the existence of a *spasmodic condition of the muscles of the heart and of inspiration*, inasmuch as the symptoms are such as those resulting from the condition known as spasm: and the sudden nature of the death indicates the muscles implicated. These cases bear some resemblance to *angina pectoris*, but yet need not be confounded with it. Indeed, although death is usually sudden in angina, yet, out of the great number of cases I have perused, and especially those collected by Jurine and Forbes, I have not been able to find one in which it occurred during the first and only attack; while in no one of the three cases I have related had the patient previously suffered from angina. Angina usually occurs either while the patient is walking or asleep; but in two of these cases the patients were quietly seated in their rooms, and no one of them was asleep. Again, in angina there is not that abundant issue of foam from the mouth and nostrils seen in these cases. Lastly, two of the three patients were women; and yet of the 88 cases of angina analyzed by Forbes in the *Cyclopædia of Practical Medicine*, 80 occurred in men and only 8 in women.

"What should be done if called to a case of suffocating spasm soon enough? In the absence of all exact notion of the cause of the affection, we must content ourselves with treating symptoms. I should cause the patient to be seated with his head supported, all ligatures formed by articles of dress being removed. I should apply sinapisms to the thighs, or better still, a cloth dipped in boiling water to the chest. I should administer some alcoholic or anti-spasmodic fluid, and if the patient could not swallow, a napkin might be dipped in æther, Eau de Cologne, or some such fluid, and held near his face. As long as the pulse continued low or the respiration embarrassed I should sprinkle the face with cold

water. As a general rule, I should, on account of the pallor of the countenance, abstain from bleeding."—*Med. Chir. Rev.*, Jan., from *Gazette Médicale*, No. 47.

18. *Obliteration of the Vena Cava Descendens*.—Dr. CARSON presented to the Newton Branch of the Prov. Med. and Surg. Assoc. for their examination, a labourer in a soap manufactory, exposed in his work to sudden and great vicissitudes of temperature, in whom, in the end of last August, after a severe lancinating pain, extending from a point beneath the fourth rib, upon the right side, near the sternum, to a corresponding point behind upon the same level, between the base of the scapula and the spine, increased by full inspiration, and accompanied with a hard dry cough, rigors and fever flushes, there was gradually developed œdema of the head and neck, upper extremities, and of the upper parts of the chest, and unusual dilatation of the superficial veins of these parts, and of the rest of the trunk of the body. These symptoms were attended with sense of fulness in the head and neck, buzzing of the ears, and flashes of light before the eyes, difficulty of breathing except in the erect position, and inability to lie upon the left side, in consequence of which the œdema was most remarkable upon the right side. There were no indications from auscultation, of disease in the lungs, heart, or large blood-vessels of the chest, with the exception of a large moist crepitus at the base of the right lung, indicating an œdematous condition of its tissue. There was no dilatation of the veins, or œdema of the lower extremities.

From the use of moderate antiphlogistic treatment, diuretics, and from the comforts of the hospital, all these symptoms gradually subsided, with the exception of the dilated condition of the veins, which was rather more marked in consequence of the subsidence of the œdema. The last symptom that was mitigated was the sense of fulness in the head and neck, which in some degree still continues when he suddenly stoops down. In consequence of returning too soon to his work, and of the severity of the weather, he was attacked with catarrh and a return of the symptoms; which, however, under similar treatment, shortly subsided, and he has continued in good health up to the present day, still able to work. He has no difficulty of breathing in walking fast or up hill, and the sense of fulness in the head is only troublesome when he stoops down. His present appearance is that of a man in robust health; there is a dark hue in the complexion, increased when he stoops down, and there is a very dilated condition of the veins of the forehead, neck, upper extremities, and of the trunk of the body, particularly on the anterior surface. Large veins as thick as a swan's quill proceed from above the upper edge of the clavicle, and from the axilla over the anterior surface of the thorax, in a tolerably straight course, to a *tortuous* cluster of veins in the epigastrium, from which emanate a number of veins running in a straight uncontorted course to the groin, the latter being rather thicker than those coming from the neck and axilla. The course of the blood in all these veins is from above, downwards.

Dr. Carson inferred the existence of obliteration of the vena cava descendens, between the entrance of the azygos vein and the right auricle, and the consequent return of all the venous blood of the body to the heart by the ascending cava. The return of the venous blood to the heart from the head, neck, upper extremities, and the walls of the chest, he inferred to take place by a retrograde course through the dilated superficial veins of the chest, the deep-seated plexus of veins surrounding and within the spinal column, through the internal mammary, intercostal, azygos, and superior diaphragmatic veins, and from these by a direct course through the inferior diaphragmatic, lumbar, demiazygos, superficial and deep-seated epigastric veins, pouring their blood into the ascending cava directly, and into the renal and iliac veins. The obliteration of the cava between the azygos vein and the right auricle, is inferred from the seat of the pain, and from the tortuous condition of the large cluster of veins at the epigastrium, and beneath the edges of the ribs, for a few inches on each side of it. The plexus of superficial and deep-seated veins of the chest, at and around the epigastrium, are evacuated into the superficial axillary, the external and internal mammary, the superior and inferior diaphragmatic and the superficial and deep-seated epigastric veins. If the passage to the heart through the azygos veins of the venous blood from the walls of the chest be cut off, the pressure upon the veins at the epigastrium must be increased, and hence their tortuosity, which may therefore be considered, in con-